

An
Inaugural Thesis
on
Intermittent Fever:
By
John Batte
of Virginia.

February 20th, 1828.

1817-1818

Chapman's

Chapman's

John Ball

of

Chapman's

Intermittent Fever

General Character. This disease consists of a succession of febrile paroxysms, usually commencing with chills, and generally terminating in profuse perspiration, with intermissions or intervals longer or shorter according to the nature of the case, and the plan of treatment pursued in each; and is named according to the particular type it assumes or is made to assume.

When the paroxysm occurs once every twenty four hours, every paroxysm being similar, the disease is said to have assumed the quotidian type and from that circumstance it is named a quotidian intermittent. If 48 hours elapse between the beginning of one paroxysm and the paroxysm next succeeding, the two being similar, it is called a tertian. If 72 hours elapse,

Intermittent Fever

General Remarks: This fever is characterized by a succession of attacks, each consisting of a chill, a stage of fever, and a stage of profuse perspiration, with intervals of comparative health in between. The attacks are usually periodic, occurring at regular intervals of time. The fever is most common in the tropics, and is often associated with malarial infection. The duration of the fever varies, but it is usually self-limiting. The patient may experience weakness, loss of appetite, and other symptoms during the attacks. The fever is usually treated with quinine, which is effective in combating the malarial parasite. Supportive care, including rest and fluids, is also important. The fever is a common and often treatable condition, but it should be properly diagnosed and managed to avoid complications.

it takes the name of quartan. There are the three principal types of the disease, though of the two last, there are several varieties of which the most frequent are: the double tertian, having a paroxysm every day, with the alternate paroxysms alike. The double tertian with two paroxysms every other day. The triple tertian, with three paroxysms on one day, and one on the next. The double quartan, with two paroxysms on the first day, none on the second & third and two again on the fourth. The double quartan with a paroxysm on the first day, & another on the second, but none on the third. The triple quartan, with three paroxysms every fourth day. The triple quartan with a paroxysm every day: every fourth paroxysm being alike. The tertian appears in the spring & is called vernal. The quartan in the fall and is called autumnal. The tertian is the most

inflammatory and frequent form & most easily cured
- The quotidian next - the quartan is the most rare
in occurrence & the most obstinate. The quotidian
makes its appearance in the morning. The tertian
at noon; and the quartan in the evening. The tertian
is the most frequent. The quotidian
next & the quartan least frequent. A paroxysm
of intermittent is divided into three stages
or stages, to wit: the cold, hot, and sweating sta-
ges - The cold stage commences with languor,
sluggishness of motion, debility, yawning, stretch-
ing & aversion to food - The face becomes pale,
the features shrink, the bulk of every external
part is diminished & the skin is covered with
cutis anserina and appears constricted as if cold
had been applied. At length the patient feels
cold & universal rigors come on, with pain in
the head, loins, and extremities - The respiration
is short, hurried and anxious - The urine is

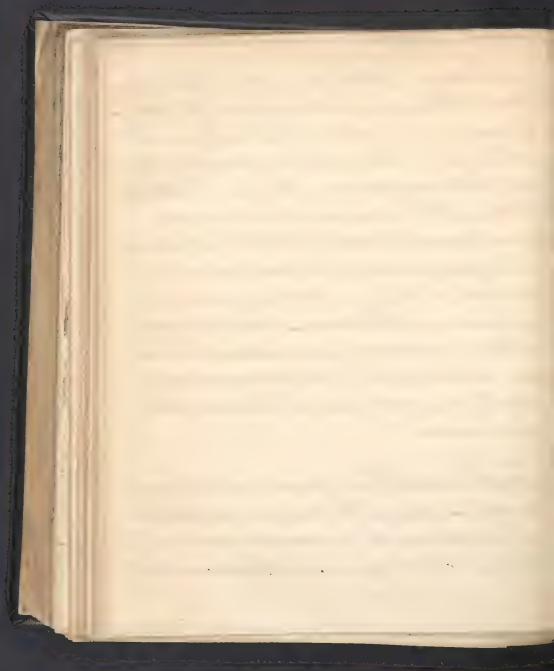
almost Coloursless, & small in quantity, the sensibility
is greatly impaired; and the pulse: small, frequent, and
often irregular. In some instances swoonings and stu-
por have obtained to such a degree as to amount
almost to apoplexy. These symptoms having continued
for one or two hours, gradually abate—being followed
immediately by the hot stage, which is evinced
by the following symptoms, to wit: increased
heat over the whole superficies of the body,
the face becomes flushed, the skin dry, thirst
considerably, pain in the head and limbs, throbbing
of the temporal arteries; anxiety & rest-
lessness—the respiration is fuller and more free,
but still frequent—the tongue is furred, the
pulse has become more regular, hard & full &
sometimes delirium arises. The symptoms of the
hot as well as the cold stage, having continued
for some time, a moisture breaks out upon
the forehead and by degrees becomes general—

the heat and Thirst gradually abate. The urine
deposits a laticitious sediment, respiration becomes
free and full, & the pulse slow, soft, and regular,
and the function of the lungs, stomach, skin and
other parts are apparently restored from their ab-
normal to their normal state; until the next
period of an attack. When the cause of the disease
existing, we have presented to our view, the same
or nearly the same train of symptoms, modified
by the circumstances of the case or the means
employed for the patient's relief. Yet there are
some anomalies that should not be overlooked,
namely that some paroxysms are not ushered
in by a cold stage, & that others have not
been accompanied by the hot. We are further
informed by Jackson that the paroxysm
of an intermittent fever has gone off by
a copious discharge of urine and abvive evacua-
tions, without any perspiration. Another anomaly



in this disease is, that it sometimes though rarely, locates itself in some particular part of the body; for instance— an extremity has been known to go through all the stages of a paroxysm; the rest of the body remaining free from the attack. The Causes of this disease are the following viz: Marsh Miasmata, called by the Italians, malarial) is the principal cause— Cold combined with Moisture is likewise a powerful agent in the production of this disease— Mental anxiety, abstemious diet, excessive evacuations, and whatever debilitates the system to a great degree may be enumerated among the causes of this complaint—

Treatment. This is divided into two kinds as applied during the paroxysm or palliative and that during the apyrexia or curative: During the paroxysm the physicians object



should be to hasten its different stages or stages and to relieve urgent symptoms—To effect this, if the physician were called to a patient during the cold stage—He would direct him to be put to bed and warmly covered and flannel bricks heated and reduced to a moderate temperature by immersing them in cold water or vinegar, or a mixture of the two, and afterwards have them wrapped up in suitable cloths and applied to the patient's feet. If required to other parts of the body—He would also order the patient warm drinks; such as: Chamomile tea, warm balm tea, peppermint (perfoliatum) tea; If stimulants are required, a little wine or whiskey may be given &c.

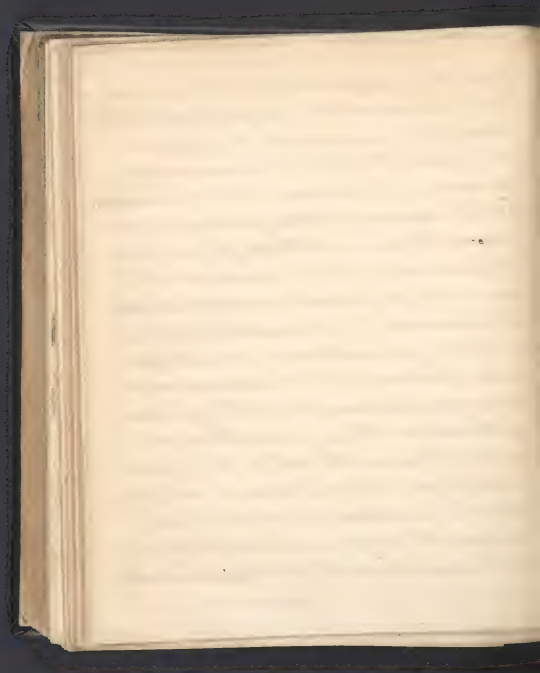
Opium is a very good remedy to relieve urgent symptoms and check the progress of the disease—To this fact I can afford some testimony—While I was a student of Medicine



under the late Dr Green T. B. Trotter, he was accustomed to give his patients upon the slightest premonition of an attack, a dose of doses powder, which not unfrequently prevented the paroxysm, and when it did not, it relieved very much the distressing symptoms, and was so effectual in giving relief that it received from the vulgar in the vicinity the name of ague powder & they reposed such confidence in it, that they carried some of the powder with them on their journeys (as they lived in a miasmatic country) to ward off an attack. The practice of giving opium in this disease originated with Dr Trotter who says that if 20 or 30 grs of the tincture of opium be given at the commencement of the cold stage it will check the progress of the paroxysm altogether. It may be carried to a greater amount if circumstances require it. An emetic given an hour



before the period of accision, frequently prevents its recurrence and sometimes completely eradicates the disease when given in its commencement. The best emetic that I have ever seen used in this disease, is the following: Pulvis ipecacuanha \mathfrak{ss} . Tartar. Antimonii et Potassa grs. Aqua Fontis $\mathfrak{z}\mathfrak{v}\mathfrak{i}\mathfrak{i}$. Misceri. The dose is a tablespoonful every ten or fifteen minutes until it operates, when it is immediately to be discontinued & its emetic effects to be promoted by tepid water. The pediluvium is also very good in this stage — so is the application of tourniquets on the extremities of opposite sides, as for example: to the upper part of the arm on the one side & the superior part of thigh on the other. The physician would prevent the cold stage if in his power, if not, he would direct his remedies so as to mitigate the symptoms & obviate the effects of the disease & hasten the hot stage, which is the



sequel of the cold. The hot being formed, the physician should direct his remedies to it and attend to the indications to be fulfilled, which are: to suppress inflammation - prevent inflammation and promote perspiration. The first indication may be answered by an emetic, when ~~emesis~~ does not occur spontaneously, ~~when~~ the latter prevails, all the physician would do at that time, would be to assist nature: by copious drinks of sage, Chamomile, or balm tea. The second indication is to be fulfilled by bleeding the patient. & the third is to be answered by the use of some of the following diaphoretics.

The best for this purpose is the acetate of ammonia, in the dose of ʒss. every half hour, or ten grains of salt of tartar in a table spoonful of vinegar at the same intervals; ten grs of nitre with one sixth of a grain of tartar emetic, or a grain of ipecacuanha, will answer, with tepid diluent drinks, as warm



Chamomile, or eupatorium (perfoliatum) tea; lemon-
ade; a drink acidulated with elixer of nitric;
or barley water with vinegar, vinegar whey; a so-
lution of nitre in the proportion of ʒj. to the pint
of linseed tea or gum arabic solution. Opium is
highly recommended in this stage by Dr. Lind.
Injurious in intermittents of a marked phlogis-
tic character; highly useful in cases of febrile re-
action. Small draughts of cold water, when
the skin is very dry and hot are both grateful
& beneficial; predisposing to perspiration. Spraying
the whole surface of the body with cold water
or with vinegar adds much to the patients
comfort, when labouring under a high fever.
This is the ordinary treatment of intermittents
during the hot stage. — But when they are
accompanied by inflammatory symptoms;
the treatment is somewhat different. In
the spring they are more or less inflammatory,

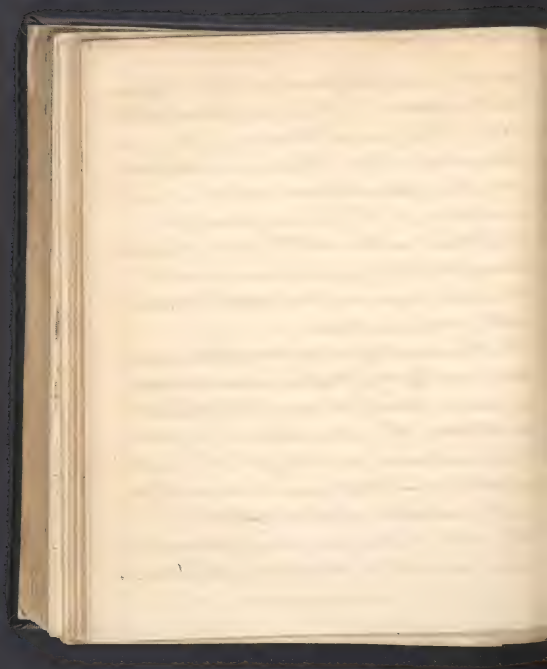


and also during the prevalence of an inflammatory epidemic. — There is no difficulty in detecting this form of the disease by the symptoms which attend. — They are a full, hard, and strong pulse, laborious respiration, severe local pains in the head and heart. — The treatment in this case ^{consists} of copious venesection during the paroxysm; followed by emetics, Mercurial purges and mild diaphoretics; such as the aforementioned.

In the sweating stage very little need be done, unless very profuse perspiration comes on, and is likely to injure the patient.

In this case, the patient should be supported by stimuli, such as: a large blister over the epigastric region & sponging the body all over with a solution of alum & spirits.

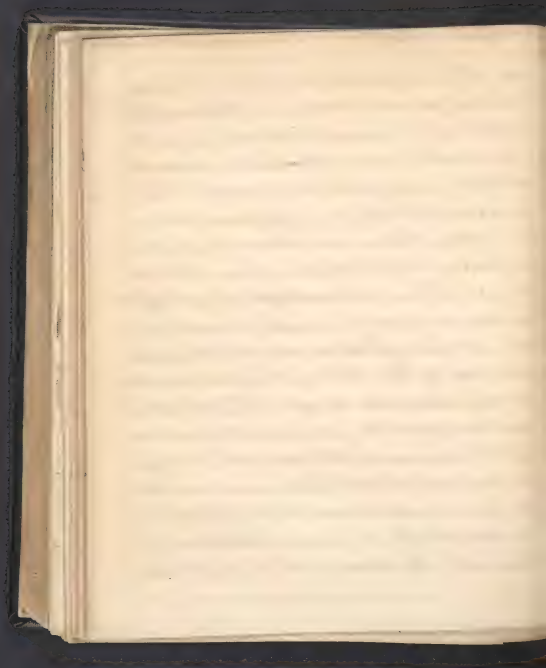
The next is the treatment during the apyrexia; which should be commenced with the



peruvian bark; where the system has been pre-
siously prepared by emetics, bloodletting, both ge-
neral and local if required, diaphoretics &c. If
the bowels be costive, they should be moved by
some mild purgative; such as calomel or the
extract of butter-nut or the powder of the May-
apple; the last of the three is a most excellent
and very mild purgative, and from numerous
experiments made on myself and others with
that article, I am induced to believe that
its effects on the system as a purgative Medi-
cine are equal to those produced by rhubarb
or the butter-nut. Possessing over them the
advantage that Dessault's apparatus pos-
sesses over all others, namely: it can be pro-
cured by a very little trouble; as it grows in
almost every part of the United States &
exists in the greatest abundance. It may be
compounded with calomel, rhubarb, butter-nut



and other substances. The following is a most excellent purgative Medicine in this disease; *Sulphuris* ℥i. *Magnesia* ℥i. To be mixed in a little sweet milk for a dose. *Cinchona* in some of its forms is by far the most powerful tonic febrifuge that physicians possess; and I will venture to say that we may almost regard it as a specific in the mildest forms of this disease, and I have also witnessed its good effects in several inveterate cases. If we wish to obtain its best effects, we should attend particularly to the state of the patient's system and not administer it when the phlogistic diathesis prevails to a considerable degree, unless the urgency of the case should require its immediate exhibition, under such circumstances it would seem to the physician to administer the bark and hold a kind of truce with the disease, until we could make



an impression on the disease & help the vis medicatrix naturae out of some of her difficulties, by attending to and fulfilling the several indications as they present themselves, at the same time supporting the patient's system.

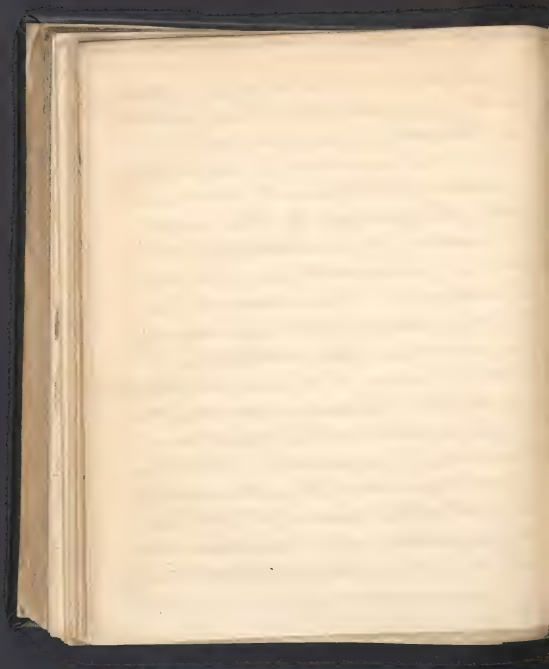
Authors express contradictory opinions with regard to the use of purgatives & emetics as preparatory measures to the employment of the Cinchona.

What I saw in the private practice of my preceptor in the early part of my medical career, impressed on my mind the importance of preliminary measures and the following, was the sum of my reflections: that, notwithstanding a cure may be effected in many cases of the disease without them in less time, it is the safer practice, where the patient is of a robust habit and his bowels costive or where we have any reason to suspect organic derangement of the liver, spleen, kidneys or



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or other parts, as we should by delay, suffer the time
for the use of such measures to pass by, without
doing that, which we ought to have done; & it is a-
greed by most Medical writers, that the Com-
mencement of the disease is the proper time
when the system can bear their operation.
The existence of visceral obstructions also
forms an objection to the use of the bark.
In such a case a mild Mercurial Course
must be premised or the bark may be gi-
ven in conjunction with Mercury.

From an ounce to an ounce & a half of the
may be given per diem, in some cases. Then
it purges opium or Kino may be given.
When much acidity exists in the prima
via, it may be combined with an alkali.
The bark when rejected by the stomach
may be combined with aromatics; such as
sassafras, cloves, black pepper, Capsicum &c.



If the stomach should reject the bark two or three times, or not be able to bear it from any circumstance; it may be administered per rectum, and in the case of children; it may be applied in the form of the bark jacket. The sulphate of quinine is a most valuable preparation of Cinchona: given in doses of from one to three grains, every hour or two *pro re nata*. Should it purge opium may be given in combination with it.

A variety of other vegetable tonics have been given in this disease, such as the *Juniperus Virginiana*, *Cornus Florida et sericea*, the *Liliodendron tulipifera*, *Aristolochia serpentaria*, the bark of the different species of oak and willow, horse Chestnut &c. strong Coffee has been recommended. The *Stela asarum* a very efficacious remedy. Many other remedies have been used in this

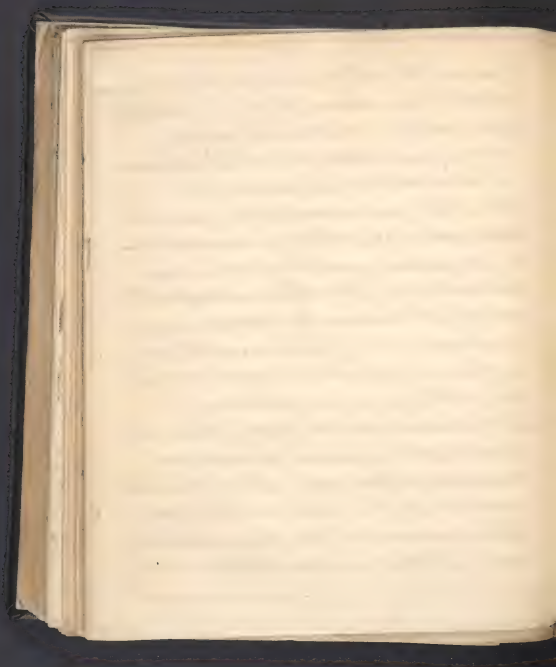


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disease as: the white oxide of arsenic, *Cuprum ammoniacum*, *oleum Terebinthina*, sulphas cupri, sulphas Zinc, Mustard, carbonate of ammonia, Camphor, the alkalies, Cinnamon

Fowler's solution of arsenic ℥℥.

These tonics and stimulants are particularly useful when age, debility, a damp situation or a rainy season give the disease a more obstinate character. I have witnessed the good effects produced by a compound of *Cinchona* and *serpularia* in the proportion of ℥i. of the former to ʒss. of the latter given in substance.

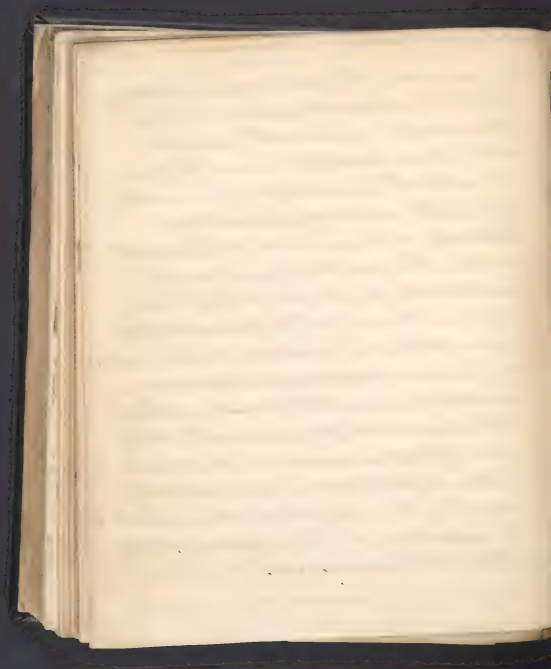
Lind speaks highly of ʒss. of alum, ten of nutmeg & ten of extract of bark, given twice a day. Five grains of Camphor with a drachm of the balm or three grains of the carbonate of ammonia with the same quantity, or a grain of opium may



be given when the system requires support,
the habit phlegmatic, and in quartans.

When cough is combined with ague, blisters
to the breast, venesection, linseed tea, deco-
ctions of Mallows, Mucilage of gum arabic,
syrups, with nitre &c may be resorted to.

Costiveness or brown, black, or bilious stools
indicate the combination of purgatives
emetics & diluents. Dr. John Bell, of this city
informed the Class of the Medical Institute
that a patient of his who had taken most
of the tonic Medicines prescribed in in-
termittents previous to the necessary depletion
by the lancet and purgatives with little
or no effect; was cured in a short time by
depletion by the lancet and purgatives & then
giving him the reputed remedies; which shows
the importance of the physicians attention
to the state of his patients system in this as



well as in all other diseases. Other remedies have been used in this disease, such as: Horson, large doses of opium and an alterative course of Mercury. The whole of the antiphlogistic system should be strictly enjoined. This system consists in the employment of cool air, in the summer, and a graduated temperature in the winter, a well ventilated room, the avoidance of all impressions upon the senses, both external & internal, the exercise of the body and mind, the taking in of aliments, &c. The diet should be light & consist of some of the following articles, to wit: toast-water, lemonade, linseed tea, barley water with other similar articles, as, a solution of gum arabic, apple water, Currant jelly dissolved in water &c. Where there is great thirst, a acidulated drinks should be used. Cleanliness is to be attended to throughout the complaint.

Blisters do most good in this as well as in most other diseases; after the phlogistic diathesis

has been greatly reduced or completely subdued;
therefore their use should be held in reserve
until the system is prepared; and in cases of local
pains as a general rule their use should be
preceded by cups or leeches, or both; their action
may be accelerated by previously applying rub-
efacients to the parts.

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